

# Exposure to Atrocities and Severity of Chronic Posttraumatic Stress Disorder in Vietnam Combat Veterans

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**Objective:** The authors' objective was to explore aspects of trauma associated with severity of posttraumatic stress disorder (PTSD) in Vietnam veterans. **Method:** Several ratings of stress exposure and symptom severity were administered to 40 patients with combat-related PTSD. **Results:** A significant relationship was observed between exposure to atrocities and the impact of PTSD on veterans' lives, as measured by the Mississippi Scale for Combat-Related Posttraumatic Stress Disorder. Exposure to atrocities was also significantly correlated with current symptom severity. In contrast, combat exposure alone was not significantly associated with overall symptom severity. Both atrocity and combat exposure, however, were significantly related to reexperiencing symptoms. **Conclusions:** The data suggest that the enduring effect and severity of PTSD symptoms on an individual are associated more with exposure to brutal human death and suffering than the threat of death associated with combat.

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Several investigators have shown a relationship between the intensity of combat exposure and the subsequent development of posttraumatic stress disorder (PTSD) (1-4). In studies examining the role of particular wartime stressors on postwar adjustment, exposure to atrocities has also been reported to increase the risk of psychological and behavioral disturbance in veterans beyond that associated with exposure to combat (1-6) and has been found to increase the probability of developing PTSD in Vietnam veterans (1, 3, 5). One of these studies showed that participation in atrocities was specifically related to the development of PTSD, while not increasing the risk for development of other psychiatric disorders (5).

Some investigators have suggested that different types of traumatic, war-related experiences may be associated with different symptom patterns or subtypes of PTSD in Vietnam veterans. For example, Laufer et al. (3) demonstrated that combat veterans with PTSD who had participated in atrocities were more likely to

have avoidant symptoms than were veterans who had witnessed, but had not participated in, such events. This group also demonstrated that war veterans with heavy combat experience were more likely to show intrusive rather than avoidant symptoms. Differentiating subgroups of PTSD patients by type of stress exposure or symptom profile may explain why certain patients are amenable to some forms of therapeutic interventions, while others remain treatment refractory. It has been shown, for example, that tricyclic antidepressants and monoamine oxidase inhibitors may be particularly useful for treating reexperiencing, but not avoidance, symptoms (7). In contrast, other classes of antidepressants, such as fluoxetine, may be particularly efficacious in treating avoidance symptoms (8).

Although both exposure to atrocities and intensity of combat have each been shown to independently contribute to the development of PTSD, it is not known whether or to what degree these variables affect symptom severity in those veterans who meet criteria for PTSD. Within the group of Vietnam veterans who suffer from PTSD (approximately 15% of combat veterans), there exists a wide range of severity of symptoms. Some individuals are able to maintain productive work and social lives, and others suffer from symptoms that are so debilitating that they are essentially unable to participate in the routine activities of everyday life. The aim of the present study was to investigate the effect of different war stressors (i.e., participation in atrocities and exposure to combat) on severity of chronic PTSD and depressive symptoms in both inpatients and outpatients still seeking and receiving treatment for PTSD symptoms.

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TABLE 1. Correlations of Stressor Severity Measures and Psychological Ratings for Vietnam Combat Veterans With PTSD

Scale	Correlation (r) (df=38)					
	Hamilton Depression Scale	Mississippi Scale	Figley Scale	Total	Impact of Event Scale	
					Intrusive Subscale	Avoidance Subscale
Atrocity Scale	0.46 <sup>a</sup>	0.70 <sup>a</sup>	0.39 <sup>a</sup>	0.31 <sup>a</sup>	0.46 <sup>a</sup>	0.02
Combat Exposure Scale	0.10	0.07	0.10	0.09	0.34 <sup>a</sup>	0.16
Avoidance subscale	0.33 <sup>a</sup>	0.08	0.41 <sup>a</sup>	0.72 <sup>a</sup>	0.19	
Intrusive subscale	0.50 <sup>a</sup>	0.53 <sup>a</sup>	0.56 <sup>a</sup>	0.55 <sup>a</sup>		
Impact of Event Scale total score	0.60 <sup>a</sup>	0.40 <sup>a</sup>	0.74 <sup>a</sup>			
Figley scale	0.53 <sup>a</sup>	0.49 <sup>a</sup>				
Mississippi scale	0.66 <sup>a</sup>					

<sup>a</sup>p<0.05, two-tailed t tests.

## METHOD

Forty male Vietnam combat veterans with PTSD (age range=39–48 years; mean=42.3, SD=3.6) according to *DSM-III-R* participated in the study after providing informed consent. Patients fulfilling inclusion criteria were selected from patients consecutively admitted to either an inpatient brief treatment unit or an outpatient clinic and were studied 4 to 8 weeks after seeking treatment. Patients were excluded from study if they had a co-occurring organic, psychotic, or major medical illness or if they were seeking treatment primarily for other comorbid conditions such as substance abuse or affective disorder.

PTSD was diagnosed by consensus, on the basis of information from structured interview data, by using the Structured Clinical Interview for *DSM-III-R* (SCID) (9), reports from the treatment team, and scores on the Mississippi Scale for Combat-Related Posttraumatic Stress Disorder (cutoff score=107) (10). The Schedule for Affective Disorders and Schizophrenia (SADS) interview was used to obtain comorbid Research Diagnostic Criteria diagnoses (11).

The Figley Scale for Combat Posttraumatic Stress Disorder (C.R. Figley, R.H. Stretch, unpublished) and the Impact of Event Scale (12) measured symptom severity over the past week. The Mississippi PTSD scale measured both symptom severity and the effects of symptoms on the individual's life. Severity of depression was assessed with the Hamilton Rating Scale for Depression (13). Scores on all four symptom rating scales were intercorrelated (see Results).

The expanded Combat Exposure Scale (14) was used to assess type and frequency of combat exposure. The Atrocity Scale (E. Brett, R. Laufer, unpublished) was used to quantify exposure to and/or participation in particularly traumatic war-related behaviors on a scale of 6–36 (6=no experience of any atrocities, 36=active participation in all). The scale consists of six questions concerning war-related crimes such as torturing and killing of prisoners of war and civilians and mutilation of corpses. Subjects were asked to state whether they had 1) no experience of, 2) heard about, 3) witnessed, or 4) participated in the events. Test-retest reliability was  $r=0.86$  for the Combat Scale and  $r=0.72$  for the

Atrocity Scale. Interrater reliability for the Combat Scale was  $r=0.92$  and for the Atrocity Scale,  $r=0.80$ . Scores on the combat and atrocity scales were not significantly correlated ( $r=0.25$ ,  $df=38$ , n.s.).

Differences in symptom severity and severity of stressor between inpatients and outpatients were determined by using Student's *t* test (two-tailed). The relationship between symptom severity and severity of stressor was determined by using correlational analysis (Pearson's coefficient *r*).

## RESULTS

Exposure to atrocities and scores on the Mississippi scale were strongly associated (table 1). Atrocity scores were also correlated with scores on the Figley scale and Impact of Event Scale and with current severity of depression as measured by the Hamilton depression scale (table 1). In contrast, exposure to combat was not associated with scores on the Mississippi, Figley, impact of event, or Hamilton scales (table 2). Both atrocity and combat exposure were significantly correlated with scores on the Intrusive subscale of the Impact of Event Scale; neither measure was correlated with scores on the Avoidance subscale (table 1).

Inpatients were comparable to outpatients with respect to level of symptoms as assessed by scores on the Mississippi, Figley, and Hamilton scales, although there was a trend for scores to be higher on the Impact of Event Scale in the inpatient group (table 2). In regard to severity of particular symptom clusters, there was a significantly greater degree of intrusive symptoms in the inpatient group (table 2). Inpatients were similar on combat exposure but showed a significantly greater exposure to atrocities than outpatients (table 2).

## DISCUSSION

This study supports the notion that the type of trauma experienced by an individual, not only the amount, contributes to the severity of PTSD symptoms experienced over the course of the illness and to the impact of these symptoms on overall functioning. These

results are consistent with the general notion that both severity and type of stressor may contribute to the course of psychopathology (15) and specifically with studies suggesting a role of exposure to atrocities in the development of PTSD and certain PTSD symptoms. We did not observe specific patterns of avoidance symptoms in veterans exposed to or participating in atrocities, as reported by other investigators (3). However, it may be that treatment-seeking veterans do not have as many avoidance symptoms as veterans selected from the general population.

The relationship between atrocity exposure and scores on the Mississippi scale was found to be particularly robust. The Mississippi scale represents a continuous measure of PTSD symptoms, including the effect of PTSD symptoms on the individual's life, and reflects both acute symptoms of PTSD and long-term or trait aspects of PTSD (10). Because individuals were included only if they had a Mississippi scale score of 107 or greater, the relationship between Mississippi scale scores and atrocity exposure in the present study represents the effect of atrocities on severity of the PTSD.

Scores on the state symptom measures, the Figley scale and Impact of Event Scale, were also positively correlated with atrocity exposure. The Figley scale was developed to measure current symptom severity in combat veterans in the three symptom clusters of PTSD (C.R. Figley, R.H. Stretch, unpublished). The Impact of Event Scale was developed to assess symptoms of PTSD, regardless of the stressor, but it inquires about only two symptom clusters of PTSD (12). Nonetheless, both scales showed a high correlation with each other, suggesting that they tap into similar dimensions of overall state severity.

In the present report exposure to combat was not correlated with overall PTSD symptom severity, whereas other reports have observed stronger relationships between severity of combat exposure and overall PTSD symptoms (1, 10, 16). In other studies, however, combat exposure and PTSD symptoms were assessed in larger groups of veterans, some of whom did not meet diagnostic criteria for PTSD. In the present study, there may have been a narrower range of PTSD symptoms because all veterans met diagnostic criteria for this disorder. Furthermore, the range of combat exposure in the present study was narrower than that in other published reports. Nonetheless, there was a significant correlation between combat exposure and intrusive symptoms, which supports the findings of Laufer et al. (3).

Inpatients and outpatients were compared to each other to determine whether these groups would differ with respect to severity of illness or stressor. Inpatients and outpatients did not differ with respect to total scores on symptom assessment of PTSD. However, inpatients showed a significantly higher level of intrusive symptoms. The higher level of intrusive symptoms in the inpatient group may reflect an overall increase in general distress leading to hospitalization and/or an exacerbation of intrusive symptoms in response to intensive war-focused therapy in the hospital. Inpatients also

**TABLE 2. Scores of Inpatient and Outpatient Vietnam Combat Veterans With PTSD on Measures of Stressor Severity and PTSD Symptoms**

Scale	Inpatients (N=16)		Outpatients (N=24)	
	Mean	SD	Mean	SD
Combat Exposure Scale	33.4	7.5	34.2	12.9
Atrocity Scale	17.7 <sup>a</sup>	3.4	14.4	3.3
Mississippi scale	128.2	16.6	124.8	15.5
Figley scale	37.3	8.7	33.3	8.6
Impact of Event Scale				
Intrusive subscale	26.4 <sup>b</sup>	5.3	20.0	8.0
Avoidance subscale	19.9	7.8	20.5	9.9
Total	47.2 <sup>c</sup>	9.0	40.5	11.2
Hamilton depression scale	21.9	6.6	20.2	7.8

<sup>a</sup>t=3.08, df=37, p<0.005, two-tailed t tests for all comparisons.

<sup>b</sup>t=2.58, df=38, p<0.01.

<sup>c</sup>t=1.93, df=38, p<0.10.

had a greater degree of exposure to atrocities but not combat, suggesting that exposure to atrocities and attending severity of illness may be more prevalent among veterans seeking inpatient treatment. Alternatively, the inpatient unit may provide an environment more conducive to the safe reporting of atrocities.

Exposure to atrocities was also particularly related to severity of depression as measured by the Hamilton scale. We have recently reported a higher level of introjective or guilt-associated symptoms of depression in veterans with PTSD than in noncombat veterans with major depressive disorder (17). In addition, within the PTSD group, we found a wide range of guilt-associated symptoms, with some veterans experiencing few guilt-associated depressive symptoms and others experiencing many such symptoms. Clearly, exposure to atrocities has the capacity to evoke profound feelings of guilt, and it may be that veterans who have been exposed to atrocities have a greater tendency to experience symptoms of depression, particularly introjective symptoms.

A possible confounding factor in the present study is that PTSD is an episodic illness, and symptom severity may be more acute in various phases of illness, whereas exposure to combat and atrocities is a constant historical factor. Thus, it is not surprising that the greatest degree of correlation was observed between exposure to atrocities and the Mississippi scale, which taps into longer-term readjustment symptoms. A thorough evaluation of the relationship between stressor and symptom severity may require a multi-axial approach using several instruments and data concerning time course of symptom severity.

Another potential methodological problem in this study concerns the reporting of atrocities. Other investigators have suggested that participation in atrocities may be underreported in Vietnam veterans (1-6). We cannot rule out the possibility that veterans underreported their participation in war crimes, even though they were studied after engaging in treatment. Finally, because the present investigation did not study combat veterans without PTSD, it is not possible to address the

question of differential risks associated with the development of a stress disorder following exposure to combat versus exposure to atrocities, as has been addressed in other studies. Nonetheless, the data support the hypothesis that exposure to atrocities plays an important role in the longitudinal course of PTSD.

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